Approved For Release 2008/09/18 : CIA-RDP78B04549A000400060008-0

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SUBJECT: SO-230 VERSUS 3404, MISSION 1102-2

A. INTRODUCTION

1. THE PURPOSE OF THIS REPORT IS TO PRESENT A SUBJECTIVE COMPARISON OF THE IN-FLIGHT PERFORMANCE OF FILM TYPES 3404 VERSUS SO-230 ON MISSION 1102-. APPROXIMATELY 2000 FEET OF SO-230 WAS ATTACHED TO THE TAIL OF THE FORWARD CAMERA FILM LOAD AND 2500 FEET TO THE AFT CAMERA FILM LOAD.

2. SO-230 IS APPROXIMATELY HALF AGAIN AS FAST AS 3404. THIS ADDITIONAL EMULSION SPEED (APPROX. 3.4 AEI) ALLOWS A SHORTER EXPOSURE DURATION THAN WITH 3404, THEREBY REDUCING THE EFFECT OF UNCOMPENSATED IMAGE MOTION. AN ANALYSIS WAS MADE TO DETERMINE THE EFFECT OF THE SO-230 GRAININESS AT HIGH MAGNIFICATION.

B. PROCEDURES AND CONCLUSIONS

1. THE AREAS SELECTED FOR ANALYSES WERE FROM THOSE PASSES WHERE SO-230 WAS EXPOSED IN THE AFT CAMERA AND 3404 IN THE FORWARD CAMERA. ACQUISITION PARAMETERS FOR THESE AREAS, WERE OF COURSE,

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SIMILAR; HOWEVER, INDIVIDUAL CAMERA FACTORS SUCH AS EXPOSURE, FILTER, AND CAMERA LOOK ANGLE WERE VARIABLES.

2. THE DUO-STAR COMPARISON (SPLIT FIELD) MICROSCOPES WERE USED TO COMPARE CONJUGATE IMAGERY FROM THE TWO CAMERA RECORDS. IN ADDITION, PHOTOMICROGRAPHS WERE MADE AT VARIOUS MAGNIFICATIONS (20X, 50X, 100X AND 215X).

3. THESE VISUAL AND PHOTOGRAPHIC OBSERVEATIONS INDICATE VERY LITTLE DIFFERENCE BETWEEN THE TWO FILM TYPES. THE SO-230 IMAGERY IS OF SLIGHTLY LOWER CONTRAST AND WHEN EXAMINED CLOSELY AT HIGHER MAGNIFICATIONS (50X AND ABOVE) APPEARS TO BE SLIGHTLY GRAINIER; HOWEVER, EDGE SHARPNESS, SHADOW AND HIGHLIGHT DETAIL AND OVERALL INFORMATION CONTENT ARE, FOR ALL PRACTICAL PURPOSES, IDENTICAL.

4. THE PHOTOINTERPRETER READOUT IS ACCOMPLISHED AT MAGNIFICATIONS OF 50X AND BELOW. ONLY OCCASIONALLY IS THERE A REQUIREMENT FOR HIGHER MAGNIFICATION. FROM ALL PHOTOINTERPRETATION REPORTS ON MISSION 1102-2, NO DIFFERENCES WERE NOTED BETWEEN THE SO-230 AND 3404 RECORDS.

5. GRANULARITY TRACES WERE MADE, HOWEVER, PROPER ANALYSIS OF THESE TRACES COULD NOT BE ACCOMPLISHED DUE

TO DIGITIZING AND/OR PROGRAMMING COMPLICATIONS. THIS ANALYSIS WILL BE ACCOMPLISHED AS SOON AS POSSIBLE.
T O P S E C R E T

END OF MESSAGE

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GROUP 1
Excluded from automatic downgrading and declassification

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